E1

1. (once amended) A method of providing an iron oxide complex for administration to a mammalian subject, the method consisting of:

producing a carboxyalkylated reduced polysaccharide iron oxide complex; and

sterilizing the complex by autoclaving.

E2 6 7. (once amended) A method according to claim 1, wherein producing the complex includes carboxyalkylating a reduced polysaccharide by carboxymethylation.

E3 8 ~~10~~. (once amended) A method according to claim 1, wherein the carboxyalkylated, reduced polysaccharide isolated as a sodium salt does not contain an infrared absorption peak in the region of about 1650 cm^{-1} to about 1800 cm^{-1}.

9 ~~11~~. (once amended) A method according to claim 1, wherein producing the carboxyalkylated reduced polysaccharide is achieved at a temperature of less than about 50 °C.

10 ~~12~~. (once amended) A method according to claim 11, wherein producing the carboxyalkylated reduced polysaccharide is achieved at a temperature of less than about 40 °C.

11 ~~13~~. (amended) A method according to claim 1, wherein the iron oxide is superparamagnetic.

E4

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18. (amended) A reduced polysaccharide iron oxide complex produced according to the method of claim 1, wherein the produced complex is stable at a temperature of at least 100 °C.

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19. (once amended) A reduced carboxyalkylated polysaccharide iron oxide complex wherein the produced complex is stable at a temperature of about 121 °C.

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20. (once amended) A reduced polysaccharide iron oxide complex according to claim 13, wherein the produced complex is stable at a temperature of at least about 121 °C for a period of time effective to sterilize the complex.

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21. (once amended) A reduced polysaccharide iron oxide complex according to claim 14, wherein the carboxyalkylated reduced polysaccharide is selected from the group consisting of a carboxymethyl, carboxyethyl and carboxypropyl reduced polysaccharide.

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23. (once amended) A reduced polysaccharide iron oxide complex according to claim 15, wherein the reduced polysaccharide is a reduced dextran.

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25. (once amended) A reduced polysaccharide iron complex according to claim 15, wherein the carboxyalkylated reduced dextran is a carboxymethyl reduced dextran.

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~~26.~~ (twice amended) A reduced polysaccharide iron oxide complex according to claim
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~~24~~, wherein the carboxyalkylated reduced dextran comprises at least about 750 micromole of carboxyl groups per gram of polysaccharide.

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~~27.~~ (twice amended) A reduced polysaccharide iron oxide complex according to claim
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~~26~~, wherein the carboxyalkylated reduced dextran comprises at least about 900 micromole of carboxyl groups per gram of polysaccharide.

E6

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~~28.~~ (twice amended) A reduced polysaccharide iron oxide complex according to claim
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~~27~~, wherein the carboxyalkylated reduced dextran comprises at least about 1100 micromole of carboxyl groups per gram of polysaccharide.

21
~~29.~~ (twice amended) A reduced polysaccharide iron oxide complex according to claim
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~~28~~, wherein the carboxyalkylated reduced dextran comprises less than about 1500 micromole of carboxyl groups per gram of polysaccharide wherein said complex does not form substantial particulates.

22
~~53.~~ (once amended) A method of providing a contrast agent for in vivo MRI of a subject according to claim 1, consisting of the steps of:

E7

formulating a composition which is a carboxymethylated reduced ultrasmall superparamagnetic iron oxide complex; and

terminally sterilizing the composition by autoclaving.

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